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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,103

03/18/2004

Paivi Valve

60282.00156

5312

32294

7590

12/08/2008

SQUIRE, SANDERS & DEMPSEY L.L.P.

8000 TOWERS CRESCENT DRIVE

14TH FLOOR

VIENNA, VA 22182-6212

EXAMINER

HAN, QI

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

12/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/803,103	Applicant(s) VALVE ET AL.	
	Examiner QI HAN	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2008 and 16 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,9-11,15-17,19,22,23 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,9-11,15-17,19,22-23 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Response to Amendment

3. This communication is responsive to the applicant's amendment filed on 08/13/2008 and RCE filed on 09/16/2008. The applicant(s) amended claims 1, 7, 15-17, 22-23 and 26, and canceled claims 2, 6, 8, 12-14, 20-21 and 24-25 (see the amendment: pages 5-14).

The examiner withdraws the previous disclosure objection (1)-(3), because the applicant made proper amendment and/or clarification for the corresponding content in the specification and drawings.

The examiner withdraws the previous rejection under 35 USC 101 and 112.1st, because the applicant's provided persuasive arguments (see the Remarks: page 18, last paragraph to page 21, first paragraph).

Response to Arguments

4. Applicant's arguments filed on 08/13/2008 with respect to the claim rejection under 35 USC 103, have been fully considered but are moot in view of the new ground(s) of rejection, since the amended claims introduce new issue and/or change the scope of the claims.

It is noted that the response to the applicant's arguments based on the newly amended claims (see Remarks: pages 21-35) is directed to the prior art claim rejection with the corresponding new ground (see below). It is also noted that the previous cited references are still applicable to the prior art rejection (may include newly combined teachings) for the amended claims having new ground (see detail below).

Claim Rejections - 35 USC § 112

5. Claims 1, 3-5, 7, 9-11, 15-17, 19, 22-23 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1, 7, 15-17, 22-23 and 26, the amended limitation of "determining (or to determine) a new index value ... such that **no audible error is introduced to a new second parameter value corresponding to the new index value**" introduces new subject matter, because the limitation is not specifically disclosed in the original specification. It is also noted that the closed disclosure (see specification: paragraph 16) does not fully support the amended limitation.

Regarding claims 3-5, 9-11 and 19, the rejection is based on the same reason described for their parent claims, because the dependent claims include/inherit the same problematic limitation as their parent claims.

Claim Rejections - 35 USC § 103

6. Claims 1, 3, 5, 7, 9, 11, 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over CEZANNE et al. (US 2004/-243404 A1) hereinafter referenced as CEZANNE in view of ERIKSSON et al. (US 2002/0184010 A1) hereinafter referenced as ERIKSSON. It is noted that the prior art 3GPP TS 26.090 cited by the applicant (see IDS filed on 06/17/2008) is also disclosed by both CEZANNE and ERIKSSON and is served as a part of prior art teachings for showing some inherent characteristics of the references of CEZANNE and ERIKSSON (See MPEP 2131. III).

As per **claim 1**, as best understood in view of the claim rejection of 35 USC 112 1st (see above), CEZANNE discloses ‘method and apparatus for improving voice quality of encoded speech signals in a network’ (title), comprising:

“determining a current first parameter value from an index corresponding to a first parameter” (p(paragraph)9, ‘voice quality enhancements such as noise compensation, noise reduction, automatic level control, and acoustic echo control’ performed by modifying selected encoded speech parameters including ‘excitation gain or the vocal tract parameters’; p32-p33 and Table 1, ‘fixed and adaptive codebook parameters (include first parameter)’, ‘fixed codebook index’, ‘fixed codebook gain’; p39, ‘fixed codebook excitation gain (current first parameter value) is extracted (determined)’),

“wherein a coded audio signal comprises indices which represent audio signal parameters which comprise at least a first parameter representing a first characteristic of the audio signal and a second parameter” (31-p33 and Table 1, ‘the standard applicable to’ the ‘adaptive multi-rate (AMR) codec’ described in ‘3GPP TS 26.090’ in which the encoded signals includes the indices (including a second parameter), which read on the claimed limitation);

“adjusting the current first parameter value in order to achieve an enhanced first characteristic, thereby obtaining an enhanced first parameter value” (p39, ‘the fixed codebook excitation gain is increased (adjusted) by the amount of the noise compensation gain ...to compensate for the near-end noise (achieve an enhanced first characteristic)’);

“determining a new index value from a table relating index values to first parameter values [and relating the index values to second parameter values by minimizing an error between the enhanced first parameter value and a new first parameter value corresponding to the new index value such that no audible error is introduced to a new second parameter value corresponding to the new index value]” (p38-p40, ‘the compensation gain computed...based on the noise level estimate’; p39, ‘the original fixed codebook excitation gain (first parameter values) is replaced with the modified fixed codebook excitation gain’, ‘it may be sufficient to extract only the fixed codebook gain table indices (substantially match the enhanced first parameter value)’, ‘for example, in the AMR codec...may operate directly on the fixed codebook gain table indices bits (new index values)...’).

CEZANNE does not **expressly** disclose “determining a current **second parameter** value **from the index** further corresponding to a second parameter” and relating the second parameter

Art Unit: 2626

to determine the (new) index value “by **minimizing an error** between the enhanced first parameter value and a new first parameter value corresponding to the new index value such that no audible error is introduced to a new second parameter value corresponding to the new index value”. However, ERIKSSON, in the same field of endeavor, discloses ‘noise suppression’ (title), comprising ‘modification of parameters in the coded bit-stream’ and ‘the codewords representing (relating) the fixed and adaptive codebook (corresponding to table) vectors (corresponding to index values)’ (p33), using ‘fixed codebook gain’, ‘gain correction factor (also corresponding to first parameter value)’, ‘modifies the gain by the factor’, ‘gain factor modified’, finding ‘the index of the codeword closest (match) to’ new gain correction factor and overwrite (replace) the original fixed codebook gain correction index’, and teaches that ‘in some coding modes with lower bit-rate they (fixed and adaptive codebook gains) are vector quantized (implying relating an index of the codebook (table)’ (p34-p57). Particularly, based on the p47-p65 teachings of ERIKSSON, one of ordinary skill in the art would have readily recognized that the goal of using the equation (in p54) reflecting the relationship between the modified (or modifying) gain correction factor and the new gain correction factor (corresponding to claimed the enhanced first parameter value and a new first parameter value) would substantially lead to or result in a minimizing and non-audible error. In addition, since both Cezanne and ERIKSSON disclose and/or use TS 26.090 standard (see Cezanne: p31; and ERIKSSON: p61), one of ordinary skill in the art would have recognized that the ARM method described in 3GPP TS 26.090 inherently use a jointly quantized vector (corresponding to the index) associating with the correction factor and adaptive codebook gain (second parameter value) for lower bit-rate coding and the gain codebook search be performed by minimizing an error (TS 26.090: page39-

Art Unit: 2626

40, bridge paragraph). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify CEZANNE by providing adaptive codebook gain and fixed codebook gains (or corresponding correction factor) with joint vector quantized codebook and modified correction factor as suggested by ERIKSSON and combining minimizing an error for the joint vector quantization as inherently taught by 3GPP TS 26.090 standard, for the purpose (motivation) of improving speech quality for system with transcoder free operation and/or for some coding modes with lower bit-rate (ERIKSSON: p4 and p57).

As per **claim 3** (depending on claim 1), CEZANNE in view of ERIKSSON further discloses “replacing a current value of the index corresponding to at least the first parameter by the determined new index value” (CEZANNE: p39-p40; ERIKSSON: p56)

As per **claim 5** (depending on claim 1), CEZANNE in view of ERIKSSON further discloses “determining the new index value from the table such that a substantial match of the current second parameter value has precedence” (CEZANNE: p39-p40; ERIKSSON: p56-57).

Regarding **claims 7, 9 and 11**, they recite an apparatus. The rejection is based on the same reasons described for claims 1, 3 and 5 respectively, because the method claims and apparatus claims are related as apparatus and method of using same, with each claimed element's function corresponding to the claimed method step.

Regarding **claim 17**, it recites a computer program. The rejection is based on the same reason described for claim 1, because the claim recites the same or similar limitations as claim 1.

Regarding **claim 23**, it recites an apparatus. The rejection is based on the same reason described for claim 1, because the claim recites the same or similar limitations as claim 1.

Art Unit: 2626

7. Claims 4, 8, 10, 15-16, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over CEZANNE in view of ERIKSSON applied to claim 1, and further in view of admitted prior art disclosure (see specification: paragraphs 59-64) hereinafter referenced as ADMISSION.

As per **claim 4** (depending on claim 1), even though CEZANNE in view of ERIKSSON disclose ‘noise compensation gain (background noise parameter value) is computed (determined)...based on the noise level estimate’ and using ‘fixed codebook gain indices’ (CEZANNE: p38 and p40; ERIKSSON: p56), CEZANNE in view of ERIKSSON does not **expressly** disclose the background noise parameter value being an **index** value (current or new). However, the feature is well known in the art as evidenced by ADMISSION who using ‘average background noise information...described in 3GPP TS 26.092...’ and ‘frame energy’ calculation and quantization with ‘index’ (see specification: p59-p64). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify CEZANNE in view of ERIKSSON by providing the background noise level with associated quantization index, as taught by ADMISSION, for the purpose (motivation) of the correct operation of background noise evaluation, noise parameter encoding/decoding and comfort noise generation for the AMR speech codec system, and/or improving/enhancing speech quality for the system with transcoder free operation (CEZANNE: p6; ERIKSSON, p7).

Regarding **claim 10** (depending on claim 7), the rejection is based on the same reason described for claim 4, because it also reads on the limitations of claim 4.

Regarding **claim 15**, the rejection is based on the same reason described for claims 1 and 4, because the claim recites the same or similar limitations as claims 1 and 4.

Regarding **claim 16**, it recites an apparatus. The rejection is based on the same reasons described for claim 15, because the method claims and apparatus claims are related as apparatus and method of using same, with each claimed element's function corresponding to the claimed method step.

Regarding **claim 22**, it recites a computer program. The rejection is based on the same reason described for method claim 15, because the claim recites the same or similar limitations as claim 15.

Regarding **claim 26**, it recites an apparatus. The rejection is based on the same reason described for claim 15, because the claim recites the same or similar limitations as claim 15.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over CEZANNE and CEZANNE applied to claim 17, and further in view of ETTER (US 2005/0071154 A1).

As per **claim 19** (depending on claim 17), as best understood in view of the rejection under 35 USC 112 1st (see above), CEZANNE in view of ERIKSSON does not **expressly** disclose "computer program (software) is directed loadable into an internal memory of the computer." However, the feature is well known in the art as evidenced by ETTER who, in the same field of endeavor, discloses 'method and apparatus for estimating noise in speech signals' (title), comprising using partially decoded speech 'to extract both the fixed codebook gain parameter and the adaptive codebook gain parameter' with 'scaling (modifying) factor' (p7), using 'AMR speech codec' (p18), and providing 'hardware capable of executing software', 'read-only memory for storing software', 'random access memory (internal memory that is directly loadable) and non-volatile storage', 'software module software code portions' (p47-p49),

Art Unit: 2626

which suggests the system has capability of implementing the functionality as claimed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify CEZANNE in view of ERIKSSON by providing an internal memory (such as RAM) for storing and loading relating software, as taught by ETTER, for the purpose (motivation) of executing the various coding/decoding processes by a computer and/or implementing the equivalent functionalities by various means (ETTER, p47 and p50).

Conclusion

9. Please address mail to be delivered by the United States Postal Service (USPS) as follows:

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to QI HAN whose telephone number is (571)272-7604. The examiner can normally be reached on M-TH:9:00-17:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QH/qh

December 7, 2008

/Qi Han/

Examiner, Art Unit 2626